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ABSTRACT

Designed to establish a unified mission for career-vocational education in California, this report identifies issues and goals and defines major priorities for program implementation at state and local levels. Following introductory sections on the focus, scope, and purpose of the plan, section I discusses the basic assumptions behind career-vocational education, indicating that its mission is to enhance the personal and economic well-being of individuals and to develop human resources which contribute to the economic development of the state. This section also examines the influences of changing technology, economic and occupational trends, changing demographic patterns and social values, student attrition, and educational reform. Section II sets forth goals for vocational education with respect to research and planning, program quality and delivery, staffing, delineation of functions in program delivery, interagency cooperation, articulation of programs and support services, employer relations, student access and retention, public awareness, accountability, and funding. Finally, section III recommends steps to be taken toward the achievement of these goals and the completion of Part II of the state plan. Appendixes include a glossary, a description of the state's public education system, and population and economic profiles. (AJL)

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CALIFORNIA PLAN FOR CAREER-VOCATIONAL EDUCATION

PART I: POLICY DIRECTIONS

JANUARY 1989

This document is the product of a joint planning effort by the

Career-Vocational Preparation Division
California State Department of Education

and the

Vocational Education Unit
Chancellor's Office
California Community Colleges

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University of California, Berkeley	Dr. W. Norton Grubb

State Staff Representatives

Chancellor's Office, California Community Colleges	Mr. Bill Anderson
Chancellor's Office, California Community Colleges	Dr. Betty R. Kisbey
State Department of Education	Mr. Jim Allison
State Department of Education	Mr. G. Allan Holmes

Project Staff

University of California, Davis	Dr. Barbara Nemko
Carvell Education Management Planning, Inc.	Mr. Fred Carvell
Carvell Education Management Planning, Inc.	Mrs. Joan Carvell

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INTRODUCTION

California's ability to retain leadership and success in

- competing in the world marketplace;
- moving into the information/service/technology society of the twenty-first century;
- meeting the economic development needs of business and industry; and
- serving the educational and training needs of a culturally rich, diverse, and constantly changing population

demands our attention and concern.

In the past, our system of vocational education and training has been highly successful in meeting the needs of the state and its people. To respond to the demands of the future, we must move rapidly together to plan and implement changes in that system that will ensure the best preparation and fullest use of California's human resources.

An immediate and urgent concern that has long-range implications for the state and its people is the growing problem of unskilled, underprepared, and displaced workers.

In California today:

- Almost 30 percent of our high school students fail to graduate, and in some innercity schools the number exceeds 50 percent.
- More than 50 percent of high school dropouts are unemployed.
- A significant number of people between the ages of 16 and 24 leave school without marketable job skills, with little understanding of the work ethic, and without knowledge of other avenues to education and training.
- Those who have not held steady, full-time jobs by the time they reach 25 have significantly fewer chances of becoming productive members of the work force than those who have.
- The state's teenage pregnancy rate is the second highest in the nation.

- Single parents who cannot find reliable and affordable child care and other support services cannot complete their education or establish a consistent employment record. These situations severely limit or preclude job opportunity, career mobility, and self-sufficiency.

- Rapidly changing technology has had a dramatic impact on the work force. It has changed the way in which jobs are performed, eliminated many unskilled and entry-level jobs, and displaced large numbers of older workers.

- More and more adults over 40 are discovering that their job skills no longer meet the demands of a new labor market and must seek retraining.

- We are faced with an increasing number of immigrants with minimal education, limited command of higher English language, and insufficient job skills for successful entry into the work force.

- Employers are finding it increasingly difficult to find qualified workers (those with occupation-specific training) and are relocating to other states and countries where such workers are available.

- State and local economies are being depleted by increasing numbers of unskilled and unemployed people who must rely on public assistance for survival. This situation simultaneously increases the cost of public services and erodes tax revenues.

If California is to respond effectively to the challenge of these problems, as well as to meet the career-vocational needs of its citizens and the business and industrial community, it will require a concerted mutual effort by all those responsible for and concerned with education and economic development, at both the state and local levels and in both the public and private sectors.

This *California Plan for Career-Vocational Education* is a joint venture between the nation's two largest providers of vocational education, developed in cooperation with broad representation of public and private agencies and organizations. It is also a historic first in California – a plan that expresses state needs and priorities, as opposed to the annual plan prepared in response to federal mandates. It provides a statewide framework upon which to build the kinds of educational programs and services that meet the needs of an increasingly diverse population and those of a dynamic and rapidly changing economy.

Focus of the State Plan

Although California public education offers a comprehensive range of instructional programs and services, this document is concerned only with career-vocational education.

Career-vocational education is a sequence of academic, applied academic, and vocational education courses and related support services that provides students with the competencies, knowledge, and attitudes they need to select, enter, advance, and succeed in their chosen careers.

Career-vocational education complements general education and is an integral part of the total educational process. Its goal is to help students apply their skills, knowledge and understanding to the world of work. All facets of career-vocational education depend on the student's basic educational proficiency as a prerequisite to success in learning and applying occupationally related skills. Thus, career-vocational education reinforces the academic curriculum by providing students with the opportunity to apply critical-thinking and problem-solving techniques to practical situations in the classroom and the work place.

Various aspects of career and vocational education and job training are explained in greater detail in the "Glossary of Terms," Appendix A.

Scope of the State Plan

The state plan encompasses the career-vocational education programs and services, offered under the auspices of the State Board of Education and the Board of Governors of the California Community Colleges, which range from kindergarten through the first two years of college.

The components of these two systems of public education include elementary schools (grades K-5); middle schools (grades 6-8); high schools (grades 9-12); regional occupational centers/programs (ROC/Ps); adult vocational education programs; career-vocational education programs offered by county offices of education and community colleges. Many aspects of the plan also apply to career-vocational education programs offered in correctional institutions. (Appendix B provides a detailed description of California's system of public education.)

Purpose of the State Plan

The fundamental purpose of the state plan is to establish the unifying mission for career-vocational education in California. It also identifies issues and goals and establishes major priorities for program implementation for both the state and local level.

The plan is comprised of two documents. Part I is an issue-oriented document that sets forth the mission and goals of career-vocational programs and services in the state's public education system. In general, it is intended to inform state and local policy makers, students and parents, employers, and the public at large about major issues facing California in preparing young people and adults for their roles as productive members of the work force. Specifically, it is intended to influence the objectives and direction of career-vocational education programs and state education agencies by identifying issues related to the delivery of quality programs and support services and by proposing goals for addressing them.

Part II of the plan focuses on implementation strategies, timelines, and measures for accountability. Part II will be developed following approval of Part I by the State Board of Education and the Board of Governors.

Parts I and II, then, will constitute the California Plan for Career-Vocational Education. As a plan, they are intended to provide a framework for the development, in cooperation with employers and labor representatives, of individualized work plans for the State Department of Education and the Chancellor's Office of the California Community Colleges - the two key state educational agencies - and for local educators to develop plans that are responsive to student needs and current but rapidly changing demands of the labor market.

SECTION I

THE MISSION, BASIC ASSUMPTIONS AND FACTORS THAT INFLUENCE CAREER-VOCATIONAL EDUCATION

The Mission of Career-Vocational Education

One of the fundamental purposes of this state plan is to establish the unifying mission for career-vocational education in California. After exhaustive discussion and thoughtful consideration, members of the Steering Committee developed the following statement:

> *The mission of career-vocational education in California is to enhance the personal and economic well-being of individuals and to develop human resources which contribute to the economic development of the state.*
>
> This mission is based on the premise that there should be a continuum of career-vocational programs and support services responsive to equity, changing demographic patterns, changing needs, advances in technology, working conditions, and skill requirements of employment.
>
> To accomplish its mission, career-vocational education must also include establishing and strengthening partnerships with employers, labor, government, and other appropriate public and private agencies to ensure that students are prepared to seek and obtain work, hold employment, advance in their chosen careers, and adjust to changing labor market demands.

Basic Assumptions of Career-Vocational Education

The scope of career-vocational education spans a wide range of student needs and circumstances between kindergarten, college, and life long-learning. It is based on a number of assumptions about the value of such instruction to students as well as its value in terms of the socio-economic welfare of the state. These basic assumptions underlie the newly established mission for career-vocational education and provide the philosophical context of the issues and related goals identified in Part I of the plan.

These basic assumptions are that career-vocational education programs and services:

- Begin at an early level of education so students may develop rational and wise choices about future careers as they mature and advance through the educational system;
- Provide needed occupational skills and develop positive work habits and attitudes while at the same time complement and reinforce basic education and academic competencies and fosters critical-thinking and problem-solving skills;
- Are coordinated and articulated so students may progress through different levels of career skills development without undue loss of time or needless duplication of effort;
- Motivate and foster student success and productivity in educational pursuits, whether in college, at work, in the home, or in the community;
- Operate in the public schools and community colleges in partnership with government, business and industry, organized labor, and others who provide employment training to meet the state's emerging and expanding need of qualified workers;
- Provide equal opportunities for underrepresented students and for those with special needs so that they can achieve personal and economic success;
- Are free from sex bias and stereotyping and assures equal access to all who can benefit from instruction and training;
- Contribute directly to the lifelong personal benefit and economic well-being of individuals and families by preparing them for work, career change and advancement, home life, and community involvement;
- Are based upon standards of quality and excellence established in cooperation with business and industry at a local, state, or national level; and
- Prepare a better-trained, literate, and flexible work force ready to meet current and future demands of a world market place.

Factors That Influence Career-Vocational Education

There are a number of major factors, some of which are beyond the control of educators, that influence the nature and scope of career-vocational programs and services. These external factors can be grouped into six broad categories:

1. Changing technology
2. Economic and occupational trends
3. Changing demographic patterns
4. Changing social values and patterns
5. Student attrition
6. Educational reform

These six factors, which are described below, are discussed more fully in Appendices C and D. The reference materials used as major resources are listed in Appendix E.

1. Changing Technology

Through the 1990s, technology will continue to change working patterns and skill requirements. Manufacturing will still account for about 40 percent of the nation's production. Because of robotics, automation, and other capital-intensive technology, the number of new jobs in manufacturing is expected to show only a modest increase of some 5 percent. However, the number of service jobs, many of which require communications and information- processing skills, are expected to increase by as much as 40 percent during the same period.

- There will be greater dependence on part-time and temporary employees, and the average worker will change occupations or careers five or more times during his or her working life.
- Computers, robots, and other non-human production components will change the work environment. Time pressures will have a growing impact at the work place, in the home, and in social life, resulting in a continued demand for convenience services.
- Workers will undergo pre-employment screening. Tests will be used to evaluate proficiency in basic academic and job skills and to identify potential problems such as drug or alcohol dependency.
- The physical environment in communities with heavy concentrations of industry and manufacturing may deteriorate, creating a need for workers trained in environmental protection and restoration.
- There will be a proliferation of new occupations of increasing complexity. Students will need to develop an awareness of career options at an earlier

age so that they can choose appropriate courses and educational programs that will prepare them for entry into productive and satisfying careers.

2. Economic and Occupational Trends

Today's dynamic economic and occupational trends are based on changing industrial patterns. These trends, which will be reflected in changing student and employer needs and demand, will continue to have an impact on career-vocational programs and services.

- As the world's sixth greatest economic power, and as the nation's leader in agricultural production, manufacturing, and high technology, California could be described as a separate country with its own global economy. International trade, particularly with nations along the Pacific Rim, plays a major role in the state's ongoing economic development.

- California's employment picture is expected to remain stronger than that of the nation as a whole. A large share of those employment opportunities will come from small entrepreneurial businesses. These firms provide over 50 percent of the jobs in the state and depend heavily on public education for well-trained and skilled workers.

- If vocational education programs are to be responsive to changing market conditions and are to retain the flexibility to meet employer needs, they must utilize current labor market information for planning and evaluation purposes.

- Opportunities for employment will continue to expand in telecommunications, manufacturing, business and finance, and health services. However, employment is expected to grow at the fastest rate in office, professional and technical, and service occupations.

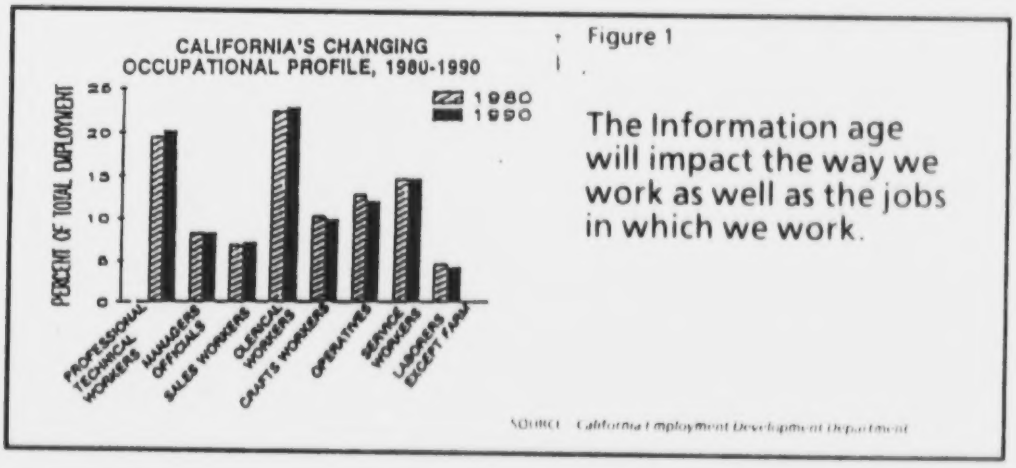


Figure 1

The Information age will impact the way we work as well as the jobs in which we work.

SOURCE: California Employment Development Department

- Dynamic economic and occupational trends will require the educational community to be responsive to the needs of business and industry and will call for increased cooperation between educators and employers.

3. Changing Demographic Patterns

The changing demographics of California's population have major consequences for career-vocational education. The state's population will increase from approximately 27 million people in 1988 to over 32 million by the year 2000. With that growth will come an increased cultural and ethnic diversity, with minorities comprising a plurality of the state's total population.

CALIFORNIA'S POPULATION GROWTH
1985-2020
(IN MILLIONS)

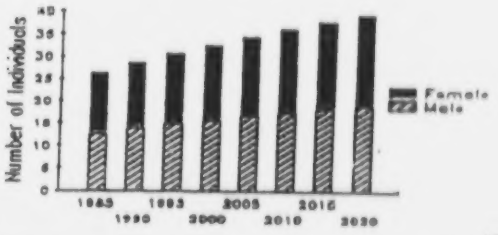


Figure 2

California's population will reach 32 million by the year 2000.

SOURCE: California Department of Finance

CALIFORNIA'S POPULATION PROJECTIONS
BY ETHNICITY

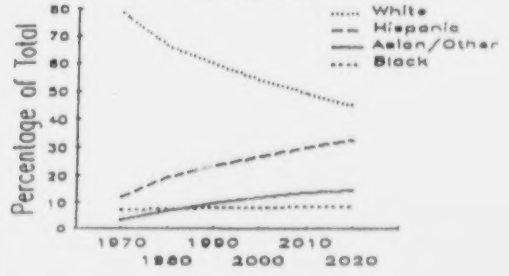


Figure 3

Currently, racial and ethnic groups account for 40 percent of the state's population; by 2020, they will comprise 50 percent.

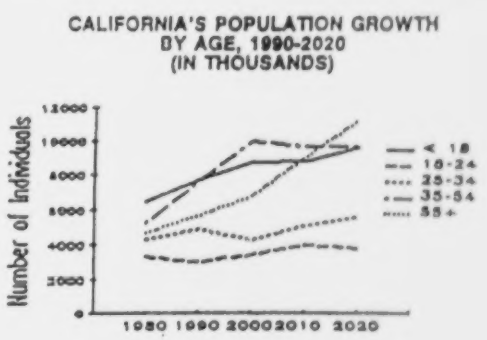
SOURCE: California Department of Finance

- It is projected that by 1990, ethnic minorities will comprise 52 percent of California's school-age population.

- With 15 percent of its population from other countries, California is first among all state's in the number of foreign-born residents.

While this minority population will be younger, as a group, than the general population, the average age in California will be over 30 years old. The population increase and demographic changes will come about as a combined result of natural growth and immigration.

Figure 4



Nearly one-third of the state's population will be between 35 and 54 by 1995; the number of those between 18 and 24 will remain almost constant.

SOURCE: California Department of Finance

- By 1995, nearly one-third of California's population will be between the ages of 35 and 54.
- Many of California's new residents will lack functional educational skills or the proficiency in English needed to succeed in a job.
- The reading skills of more than 3 million adult Californians are below the fourth-grade level.

The demographic changes highlighted here have major implications for California public education in general and career-vocational education in particular. First, the fact that there will be a smaller cohort of high school-aged youth until the mid to late 1990s means that career-vocational education programs will have fewer traditional-aged students from which to draw. At the same time, there will be a stronger demand for career-vocational education among older people, who will have different needs and learning styles. They may be re-entering school to change or upgrade careers and will need different kinds of support services, such as child care, flexible class schedules, classes located conveniently close to work or home, and short-term courses.

4. Changing Social Values and Patterns

Changing social values will affect employment preparation and support services. Advances in science and medical care will increase longevity. These advances will be accompanied by concern about the quality of life and will have an impact on people's use of leisure time and their retirement plans, creating a demand for

personal-growth courses in addition to career-vocational education. Traditional teaching methods may not be appropriate to meet the needs of older students.

Further, the traditional family of a working father, homemaker/mother, and two or more school-age children is no longer the norm.

- Between now and the year 2000, three out of five new workers will be women, and it is estimated that by 1995, three out of four mothers of school-age children will be employed, perhaps as a result a dramatic increase in single-parent households or women's pursuit of higher education and jobs that pay higher wages.

- Lack of child care, flexible class scheduling, and other support services are often cited as critical problems that prevent re-entry women and teenage mothers from pursuing opportunities for education and training or seeking and finding employment that offers economic independence.

5. Student Attrition

The failure to complete high school has a negative, long-term impact on both the personal lives and economic well being of students.

- Over 30 percent of all California students who begin high school drop out before graduating, a rate that approaches almost 50 percent in innercity schools.

- Truancy, teenage pregnancy, and involvement in crime and gang warfare often go hand-in-hand with failure in school and illiteracy.

To combat the problem of illiteracy, high schools endeavor to provide all students with basic skills through increased time in academic courses. In many schools this emphasis, in addition to the increased focus on the academic core, has reduced the opportunity for students to participate in career-vocational education, which supports and reinforces the academic curriculum while preparing students for the world of work. As a result, many students may receive little career guidance or counseling, have little understanding of the work ethic, and leave school without marketable job skills or knowledge of other avenues to education and training.

6. Educational Reform

Educational reform and related legislation have brought about significant changes in both high schools and community colleges. Emphasis has been placed upon the mastery of academic competencies by all students.

- Educational reform at the high school level has had the effect of reducing the number of electives students may take, including career-vocational education courses.

- At both the secondary and community college levels, critical-thinking and writing skills have been integrated throughout the curriculum, including career-vocational education.

- The newly revised Master Plan for Higher Education, and related legislation, have reaffirmed the community colleges' position as one of the state's systems of higher education, along with the University of California and the California State University systems.

The continuing need for a literate, well-trained, and flexible work force will strengthen the interdependent relationship between academic and career-vocational programs, between levels of education, as well as place increasing emphasis on life-long learning and career-upgrading opportunities.

These six factors, and the concerns identified earlier in this document, establish the setting for the discussion of career-vocational issues and goals for career-vocational education in Section II.

SECTION II

ISSUES AND GOALS FOR CAREER-VOCATIONAL EDUCATION

The mission, scope, and need for career-vocational education in California are determined - directly and indirectly - by such critical factors as the state's economy, its demographics, its social values, and its technology. An analysis of these factors, which were explored in Section I, identifies eleven major issues that generate the policy and planning goals for career-vocational education.

Major Issues for Career-Vocational Education

These major issues are by no means mutually exclusive; rather they are interrelated and interdependent. By identifying issues rather than programs or institutions as the focal point for statewide planning, it is possible to establish common goals for all levels of career-vocational education, whether in elementary grades or in community colleges.

When viewed as a whole, the issues provide the framework essential to developing goals and implementation strategies for improving career-vocational education at both the state and local level. This approach allows local educators to adopt and adapt goals and implementation strategies that reflect the unique needs and characteristics of their communities.

The eleven major issues addressed in this state plan are presented below in a logical and sequential order, not in priority of importance.

1. Research and Program Planning
2. Program Quality and Delivery
3. Program Staffing
4. Delineation of Functions in Program Delivery
5. Interagency Linkage
6. Articulation of Programs and Support Services
7. Employer Linkage

8. Student Access and Retention

9. Public Awareness

10. Program Accountability

11. Program Funding

A set of goals related to each of these eleven issues is presented in the pages that follow. To avoid unnecessary repetition, goals have been grouped under the issues to which they are most relevant and important, although they may apply to other issues as well.

Upon adoption of Part I of the State Plan by the State Board of Education and the Board of Governors, these goals become priorities. Efforts will be made by the two state agencies toward attainment of these goals. Additionally, major efforts will be made for the development of Part II: Implementation Strategies. These goals will also guide state and local educators and administrators in planning career-vocational education programs and services and in establishing funding priorities.

Goals for Career-Vocational Education

1. Research and Program Planning

Research is essential to effective planning for career-vocational education, especially in view of the rapid and dynamic changes in the state's economy, technology, labor market, and population. It's imperative that those in public education work closely with employers and other groups and agencies that conduct research and generate data.

- Those who plan for career-vocational education at the local level should use the results of research to establish priorities that meet local needs while avoiding unnecessary duplication of programs and services. All those who provide and all those who use career-vocational education need to be included in the planning process.

- Career-vocational education planning should be based on accurate, appropriate, and timely research data. Their use will facilitate: (1) *internal analyses* of funding, facilities, equipment, and staffing resources and needs; and (2) *external analyses* of demographic, economic, and social trends; changes in labor-market demands; and technological developments.

- Planners need to be able to identify those who provide career-vocational programs so that articulation agreements can be established.

- Mechanisms need to be in place that help identify the expectations of employers and determine if their expectations are being met.
- Research data must be timely, consistent, and accurate, and collected on a routine and systematic basis.
- Research should include, but not be limited to, information on program outcomes, including job placement, job satisfaction, and quality of life.
- Research findings need to be analyzed, coordinated, and applied in the comprehensive planning of career-vocational education programs at both the state and local levels.

Goals for Research and Program Planning

1. Research in career-vocational educat on will be conducted to provide up-to-date information on student demographics, student needs, socio-economic trends, labor-market demands, and program outcomes, including job placement.
2. The collection and utilization of research data will be coordinated among those who provide career-vocational education programs and services in the public schools and community colleges.
3. Planning at the state and local levels will occur on a continuing basis to establish direction and priorities for implementing, operating, and evaluating career-vocational programs and services.
4. Representatives of business, industry, and government will be involved in research and planning for career-vocational programs at all levels of education.
5. Research data on occupational demands and employer needs at the local, state, and national levels will be obtained through working closely with business, industry, and labor.

2. Program Quality and Delivery

A fundamental precept of career-vocational education is to prepare young people and adults to select, enter, advance in, or change their occupations or careers.

Effective career-vocational programs result from an optimal match of student and community needs. It is extremely difficult to maintain program excellence in the face of limited resources and the increasingly diverse demands of a rapidly changing

work place. Curriculum content must be kept up-to-date; instruction should reflect industry standards of quality; and equipment and facilities should simulate those that graduates will encounter on the job.

Instructors not only need to be current in their fields, but also knowledgeable about effective teaching methods if they are to help students of all ages and backgrounds learn effectively and recognize that many of their skills and much of their knowledge are transferable from one occupation to another.

Career-vocational programs and services are not available at all levels of education or at all locations throughout the state. The recent reform movement has emphasized traditional academic skills and has increased high school graduation requirements in academic courses. As a result, the option of taking electives such as career-vocational courses has been limited throughout the K-12 system. Unless such courses are considered and appropriately accepted as an effective alternative strategy for students to reinforce and support academic skills, the quality of career-vocational education programs is at risk, as is their effectiveness in helping students prepare for and achieve career goals.

Goals for Program Quality and Delivery

1. The support and reinforcement of academic skills will be an integral part of career-vocational programs for youth and adults.

2. The career-vocational education curriculum will be relevant and will provide students with the skills and knowledge reflecting the current and future work place.

3. Career-vocational education programs will be available and responsive to students and employer needs.

4. Students enrolled in academic programs will be encouraged to also take career-vocational courses.

5. At the secondary level, appropriate career-vocational courses will be provided that meet state-mandated diploma and graduation requirements.

6. There will be flexibility in program design and a timely state program approval process so that career-vocational education programs and courses may be added or deleted as local conditions and employment opportunities change.

7. Career-vocational programs and support services will be developed and implemented so that students at risk may complete their studies and graduate while also developing career-entry and employability skills.

8. Career-vocational instructors will remain current with theory and practice in their fields, both as they relate to industry standards and to effective teaching methods.

3. Program Staffing

There will be a serious shortage of qualified career-vocational education personnel within the coming decade. Qualified personnel are the key to quality programs and services.

To remain current in their fields, career-vocational education instructors and staff need incentives. Career-vocational education will continue to require teacher training and staff development programs that provide a better understanding of the growing ethnic, cultural, and gender diversity, and the special needs of California's student population. Comprehensive staff development programs will help ensure that students receive effective instruction and relevant training in current and occupational and employment skills.

The effectiveness of career-vocation education is closely tied to appropriate staffing patterns that reflect instructional quality, currency of knowledge, and the diversity of California's population. The emergence of the new majority student, at all levels of public education, demands that our schools and colleges attract, employ, and retain career-vocational personnel who proportionately represent the composition of California's changing population. Today's educators can help alleviate future staffing shortages by encouraging students to explore teaching opportunities available in career-vocational education.

Goals for Program Staffing

1. Assertive recruitment and training programs will assure the availability of competent and well-trained full- and part-time career-vocational education instructors, administrators, and support staff.

2. Career-vocational education staff at all levels will reflect the gender and ethnicity of the student population.

3. Career-vocational education staff will be sensitive to and knowledgeable of the unique needs and cultural diversity of students and will employ instructional strategies and support services that foster student success.

4. Career-vocational education personnel will be supported by comprehensive staff development programs that incorporate state-of-the art skills in instructional methodologies and support services.

5. Staff development programs will be used to make all educational staff aware of and knowledgeable of career-vocational education program options, career guidance and counseling services, and job placement needs of students.

6. Collaboration with public and private colleges and universities will result in preservice and inservice educational programs for teachers and counselors that are consistent with emerging technologies and with statewide policies and goals for career-vocational education.

7. Collaboration with public and private colleges and universities will result in improved credentialling programs for teachers and administrators, emphasizing instructional skills, program evaluation, and curriculum development.

8. Career-vocational education staff will communicate with their educational colleagues at other educational levels on students needs and aspirations.

9. The expertise and resources of business, industry, and labor will be tapped to provide appropriate pre- and inservice training and staff development for career-vocational education personnel at all levels.

4. Delineation of Functions in Program Delivery

To avoid unnecessary duplication of programs and services, there must be a delineation of functions among the various providers of career-vocational education. The problem of delineation is particularly acute among those whose programs serve adults and out-of-school youth.

Delineation of functions involves not only those in public education who deliver career-vocational education programs and services, but also local and state agencies that offer employment training. If the various functions were clearly delineated, it would strengthen the accountability of all who offer career-vocational education programs. Historically, however, state and local efforts to delineate functions with public education have not led to acceptable guidelines or definitive results.

Among the conditions that contribute to this state of affairs are:

- Federal and state legislation that authorizes overlapping roles for various program providers that serve targeted populations as part of their mission;

- Differences in the availability of, and sometimes overlapping responsibility for, career-vocational education programs and services for adults in various parts of the state;

- Different sources of federal and state funding, which engenders competition among program providers that depend upon enrollment-driven income for their survival;

- Absence of a common program-approval process, reporting system, and accountability measures;

- Lack of a state plan for human resource development that provides adequate guidelines for delineating the function of different providers of public career-vocational education programs; and

- An apparent inability on the part of some state and local decision makers to reach agreement on a proposed, longstanding plan that delineates functions and allocates resources accordingly.

Goals for Delineation of Functions in Program Delivery

1. The State Board of Education and the Board of Governors of the California Community Colleges will adopt a policy that provides and supports a continuum of career-vocational education programs and services that avoids unnecessary duplication of effort.

2. Coordination of local program planning will occur.

3. Accountability mechanisms will be devised to identify and eliminate duplicative and inefficient career-vocational education programs and services.

5. Interagency Linkage

There is no commonly accepted data base or process for planning or coordinating career-vocational education programs.

There is a need to improve interagency cooperation and coordination to ensure program accountability and program quality.

A wide array of career-vocational education programs and services in California are administered by interdependent, but autonomous, public and private entities. In some cases, this has led to a perceived duplication of effort by some agencies, possible

inefficient use of resources, and sometimes less than effective program outcomes. Four key trends argue the need to establish and maintain strong and effective lines of communication and coordination among local, state, and federal agencies:

- Rapidly changing economic and demographic patterns in California;
- Changes taking place in occupational skill requirements as the result of changing technology and employment practices;
- Reduction of resources in the face of an expanding need for career-vocational education programs and services; and
- Demands for evidence of accountability from policy makers, funding agencies, and the public.

In addition, public education must interact with many other state and local agencies involved in activities that define training needs, occupational trends, and changing economic conditions. The role and contributions of these agencies must be considered in program planning, implementation, and evaluation.

Goals for Interagency Linkage

1. A full range of educational and support services will be provided to students/clients in a timely and effective manner by establishing communication, coordination, and working relationships among and between those who provide federal, state, and local funds for career-vocational education and job training programs and services in California.
2. The Joint Advisory Policy Council will coordinate interagency program policy development between the State Department of Education and the Chancellor's Office, California Community Colleges, and will interact with other public agencies that offer employment training programs for the development of overall state policy.
3. Roles and responsibilities of state agencies that generate information and provide funding needed for joint program planning, delivery, and accountablility will be defined by those agencies.
4. Public schools and community colleges will coordinate program planning and delivery with appropriate agencies to assure that those with special needs are successfully prepared and transitioned into the state's work force.

6. Articulation of Programs and Support Services

There is a need to continue and to expand the effective integration of career-vocational education programs throughout the educational system so that students may be assured a smooth transition from one level to the next.

The purpose of articulation is to provide students a coordinated and sequential progression from one level of education and training to the next. Articulation calls for a careful assessment of course objectives and content, competencies ,and support services offered at each grade level from kindergarten through high school and in regional occupational centers/programs, adult education programs, community colleges, and four-year institutions.

Articulation cannot be achieved without cooperation within the public education system and between that system and other agencies in the public and private sector that are concerned with the effectiveness of career-vocational education programs. There also must be articulation between academic and career-vocational education programs and between schools at the same level so that students transferring from one school to another may progress in an orderly manner and with minimal disruption or duplication of effort.

Because of the increased skill requirements in many technical occupations, articulation between California's secondary schools, ROC/Ps, and community colleges need be extended through programs offered in four-year institutions. This has given rise to the "2+2" concept, in which career vocational programs begun in the last two years of high school are articulated with related programs in the community colleges for the next two years, and to the "2+2+2" concept, which extends that articulation into the uppper division level in four-year institutions.

Goals for Articulation of Programs and Support Services

1. Full cooperation will be established among local educational agencies and between different educational levels and disciplines to assure students a smooth transition from one stage of the career-vocational education program to the next.

2. The state will provide leadership, technical assistance, and incentives for local agencies to develop articulation programs and agreements at each level of education.

3. Local education agencies will provide for articulation of programs in their annual planning and budgetary process.

7. Employer Linkage

California educators must establish close linkages with employers in the public and private sectors to ensure that career-vocational education programs and services reflect working conditions and employer expectations, and to maximize the use of limited resources.

Education/employer linkages will benefit both students and employers. To ensure that the career-vocational education programs offered to students are relevant and of high quality, those in the employment community must participate in appropriate aspects of program planning, delivery, and evaluation, including the establishment of priorities for various career-vocational education fields. Such efforts are essential because of the rapid and dramatic changes occurring in technology, employment practices, and occupational patterns that directly affect the nature and content of career-vocational education programs.

A further incentive for public education to seek stronger linkages with the private sector is the potential for maximizing the expertise and training resources of both sectors.

This improved working relationship can enhance the resources available to public education by expanding the information base, developing clearer understanding of employer needs, and improving efficiency in program delivery. In turn, the educational system can provide employers with workers who possess the academic, occupational, critical-thinking, and problem-solving skills essential to assume a productive role in the work force and society.

Goals for Employer Linkage

1. Effective communications and partnerships with employers and labor will improve the planning, delivery, and evaluation of career-vocational education programs and services.

2. Education's partnership with employers and labor will develop human resources through exchanges in which career-vocational education instructors can return to business and industry to update their skills, while workers provide expertise and form an adjunct instructor pool that can strengthen program content and training.

3. A partnership of educators, employers, and labor will utilize public and private training facilities, equipment, and expertise to increase student interest and participation in career-vocational education and to ensure the availability of a well trained work force.

4. Career-vocational education will be an active participant in local, regional, and state economic development.

5. Employers will be encouraged to provide incentives for students to pursue a career-vocational education in the form of scholarships, grants, and special recruitment into business and industry.

8. Student Access and Retention

Ensuring student access to career-vocational education programs and service at all levels of education is mandated; not only by legislation, but also by ethical and economic considerations. Once students are enrolled, their retention and success must be assured through appropriate and effective instruction and support services.

Access to career-vocational education encompasses a broad range of issues, including the assurance that quality programs and services will be available to all students regardless of ethnic origin, gender, disability, or age. This means that those involved in the planning and ultimate delivery of those programs and services must share responsibility for ensuring that equity of access is achieved for all students who can benefit from instruction.

Efforts to retain students and help them successfully complete their programs of choice is inherent in the concept of equity. An increasingly large segment of the student population is seeking to gain economic independence through career vocational education. Given the diverse ethnic, cultural, and educational backgrounds of these students, promoting access to career-vocational education programs without a corresponding commitment to provide the support services that will help them persist and succeed does not fulfill the legal and ethical obligation of access.

Goals for Student Access and Retention

1. Current, accurate, and unbiased career information appropriate to each grade level will be provided to all students, enabling them to make informed educational choices and career plans that lead to realistic occupational prospects.

2 A continuum of comprehensive career guidance services and technical assistance appropriate to each grade level will be provided to students. All assessment instruments and procedures will be free of bias.

3. Recruitment efforts will reflect affirmative action goals and will be directed toward underrepresented groups in addition to the general student population.

4. Opportunities will be provided for all students to enroll, participate, and succeed in career vocational education appropriate to their grade level, regardless of gender, age, disability, and ethnic, cultural, or economic background.

5. Support services essential to student access, retention, and success in career-vocational education will be provided.

6. Teachers and counselors will encourage, advise, and assist all students in making realistic educational decisions and rational career choices.

7. To ensure access, retention, and success, career-vocational education programs will provide options for students at risk and special populations through support services such as tutoring, child care, transportation, flexible enrollment and scheduling, procedures and financial aid.

9. Public Awareness

The purpose and intent of career-vocational education is perhaps not well understood. Many think of it as being based solely in the industrial trades. They do not readily associate vocational training with a career in health services, business and marketing, computer applications, child development and child care, or electronics and other high-technology fields. This widespread misunderstanding impairs the image of career-vocational education.

Those who must be informed about career-vocational education include legislators, policy makers, students and parents, employers, the general public, and the educational community itself. Many of these groups lack information about or understanding of the benefit of career-vocational education to students, and are unaware of broader social and economic interests that are dependent on a well-prepared and flexible work force.

If career-vocational education is to be successful and gain the support of these various groups, a comprehensive public information program must be initiated at both the state and local level. The promotional effort should be based on accurate and timely research and information about the variety of programs and services available, the number and characteristics of those served, and the contributions of career-vocational education to the student's well-being, to the employer's needs, and to the state's economic development.

Goals for Public Awareness

1. The public will be made aware of the opportunities available in career-vocational education programs and services.

2. Career-vocational education will be accepted as an equal and integral component of the mission of California's public education system.

3. The positive impact of career-vocational education on the students well-being and on the economic development of the community and the state will be demonstrated through public awareness and support of the programs and services.

10. Program Accountability

Accountability pertains to the formal process of reviewing and measuring the outcomes of career-vocational education programs and services offered by all providers.

Accountability requires the development and application of agreed-upon standards and measures of performance effectiveness appropriate to the type and level of career-vocational education programs being offered. State and local accountability efforts must be comparable and compatible so that appropriate and effective action can be taken.

Beyond compliance requirements imposed by outside funding agencies, consistent and equitable accountability procedures and standards in public education are important. Among the factors that should be included in determining accountability in career-vocational education are: (1) program enrollments and student demographic characteristics; (2) retention rates; (3) post-program outcomes, as measured by student job placement, job upgrade, transfer to advanced education or training, and attainment of expressed student and employee goals and expectations; and (4) some measure of cost effectiveness and cost benefits.

Accountability extends beyond immediate career-vocational education programs and those who deliver them. It incorporates the belief that all agencies that interact with local program providers also are subject to a level of accountability and have a commitment to local providers, whether they are state policy-making agencies, the Legislature, respective state and local governing boards, business and industry, or the public at large.

Goals for Program Accountability

1. Program effectiveness will be measured in a systematic manner, using quality standards and indicators appropriate to the various levels and types of career-vocational education programs and services.

2. There will be comparable and compatible career-vocational education information systems to collect, analyze, and report, in a timely and accurate manner, data on program enrollments, student characteristics, student goals, and program outcomes that will provide a basis for assessment, planning, and decision making at the state, regional, and local levels.

3. Effective community participation, including representation from employers and labor, will be used to establish quality and performance standards for assessing career-vocational education at all levels.

4. The effectiveness of career-vocational education programs and services will be demonstrated by student attainment of defined program competencies, job placement, job upgrade, career change and transfer to advanced training, as well as satisfaction of employer needs and expectations.

11. Program Funding

Adequate, stable, and predictable funding is critical to assuring the availability and quality of career-vocatonal education in California. Current limited resources must be utilized to the maximum to meet student and employer needs. New resources must be made available if program providers are to meet expanding and new goals.

Heavy reliance by many programs on State General Fund support leaves the educational system at the mercy of economic fluctuations. Resources available to career-vocational education are not sufficient to fully provide quality programs and services. Resources are further eroded by inflation and by the need to provide special instruction and support services for underprepared students, to replace obsolete facilities and equipment, and to maintain competitive salaries.

Many federal and state programs require that funds be matched from local resources. At the local level, however, the funds often are inadequate or simply not available. This prohibits some districts from being able to participate in these programs.

Career-vocational education requires a broader funding base if it is to provide the quality and level of programs and services necessary to meet the demands and needs of students and employers. New ways of increasing revenues for local providers should be sought; dependency on enrollment-driven funding should be reduced. Incentives are needed so that at least a portion of any additional tax revenues would become available for local educational initiatives. Other avenues to increase resources, such as user fees and sharing economic development incentives with local providers, need to be explored.

Fiscal accountability must be considered at both the local and state levels. This aspect relates not only to the ability of public providers to the able to address the many priorities placed upon them with the limited resources that are available but also to the nature of those priorities as determined by the Legislature and by those who determine fiscal program policy.

Goals for Program Funding

1. Adequate, stable, and predictable funding will enable career-vocational education to fulfill an expanded role and respond to changing technologies and marketplace demands as it works to meet the needs of individual students and employers for training and retraining workers.

2. New resources will be made available so that program providers can meet expanding and new goals.

3. Funding for career-vocational education will be sufficient to keep the instructional personnel, curriculum, and facilities and equipment current, and to address the demands posed by changing and emerging technologies.

4. Incentives will be available to employers that will increase their paticipation in and support of local career-vocational education programs and training.

SECTION III

NEXT STEPS: COMPLETING PART II OF THE STATE PLAN

Introduction

Sections I and II of this policy document define the mission and set forth the issues and goals for career-vocational education in California as identified by the Steering Committee. The two sections form the foundation upon which appropriate strategies for achieving these goals must be developed. The implementation strategies, along with appropriate allocation of funds and evaluation guidelines, will be developed in Part II of the state plan. Upon their adoption by the State Board of Education and the Board of Governors, Parts I and II will constitute the California Plan for Career-Vocational Education.

The primary responsibility for implementing the goals for career-vocational education rests with the state's two principal educational agencies - the State Department of Education and the Chancellor's Office of the California Community Colleges. They are responsible for establishing priorities for allocating state funds and for providing special projects, inservice staff training, and technical assistance to local districts and schools/colleges. The recommendations that follow contain the steps to be taken in implementing the goals.

Recommendations

To make the transition from stated goals to their statewide implementation, the following steps need to be taken.

1. The State Board of Education (SBE) and the Board of Governors (BOG) will adopt the mission and goals set forth in this document upon recommendation of the Joint Advisory Policy Council (JAPC). Once adopted, the goals become official board policy. The JAPC will then be responsible for monitoring their implementation, following the recommendations below.

2. To advise the JAPC during the implementation of the goals, a state-level steering committee will continue to be utilized. The committee will be similar to that which developed the state plan, with the addition or substitution of members as appropriate and with continued strong representation from business and

industry. This will provide continuity during the development of Part II of the state plan, which will present the strategies and evaluation guidelines to be used in implementing the goals.

3. The State Board of Education and the Board of Governors will promote and disseminate the mission and goals for career-vocational education to local educational and other state agencies.

4. The staffs of the two boards will cooperatively develop, with advice and representation from their various constituencies, implementation strategies and evaluation procedures for each of the goals contained in Part I of the state plan and incorporate them into their operational priorities and budgetary processes. It is anticipated that Part II of the state plan, which contains those strategies and procedures, will be presented to the JAPC and the two governing boards by the fall of 1989.

5. The staffs of the two governing boards will provide direction and assistance to local educational agencies in developing plans and strategies to address the goals for career-vocational education. Demonstration models that, to the extent possible, implement the goals of the state plan will be developed. The models should include the design for achieving the goals related to the various issues identified in Part I of the plan.

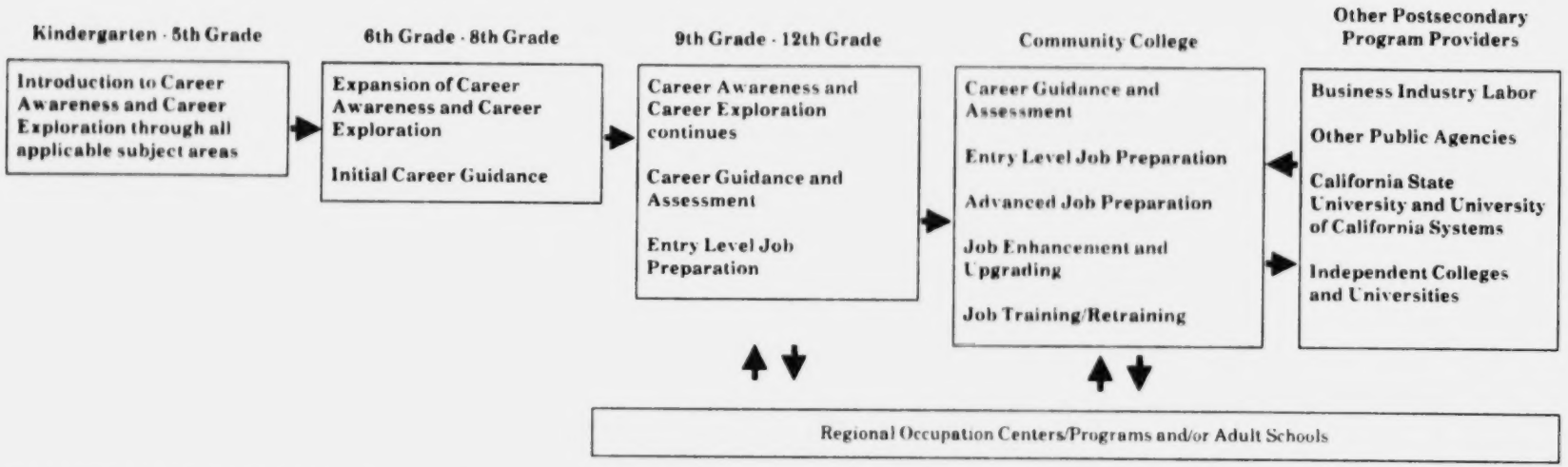
6. Federal and state legislation will be reviewed to determine the extent to which they may contribute to unnecessary duplication of career-vocational programs and services for similarly targeted populations. The flow chart in Figure 5 demonstrates the continuum of career-vocational education as it is currently delivered. In addition, it shows the interaction between ROC/Ps and adult education programs at the secondary and community college levels. Because this interaction is not discrete, delineation of function is unclear.

7. Participants at all levels of career-vocational education will cooperate to secure the commitment of appropriate human and fiscal resources to implement the provisions of the state plan. Legislation and funding will be sought for this purpose. Current and future resources will be given new priorities that reinforce and support the mission and goals of the plan and influence the development of career-vocational education in California.

8. The State Department of Education and the Chancellor's Office of the California Community Colleges will facilitate the development and implementation of appropriate means of assessing the impact of the mission and goals for career-vocational education upon the state's educational system, its businesses and industries, and its economic interests.

Figure 5

The Career-Vocational Education Focus of the Public Educational Deliverers


Kindergarten - 5th Grade
Introduction to Career Awareness and Career Exploration through all applicable subject areas
6th Grade - 8th Grade
Expansion of Career Awareness and Career Exploration
Initial Career Guidance
9th Grade - 12th Grade
Career Awareness and Career Exploration continues
Career Guidance and Assessment
Entry Level Job Preparation
Community College
Career Guidance and Assessment
Entry Level Job Preparation
Advanced Job Preparation
Job Enhancement and Upgrading
Job Training/Retraining
Other Postsecondary Program Providers
Business Industry Labor
Other Public Agencies
California State University and University of California Systems
Independent Colleges and Universities
Regional Occupation Centers/Programs and/or Adult Schools

Note: This flow chart illustrates the continuum and interrelationship of career-vocational education programs and services that begin in K-5 and progress through each level of the public education system. The focus of career education in lower grades is on career awareness and exploration in applicable subjects. At the middle school (6th through 8th grades) career guidance is introduced. By high school, guidance services are expanded to include assessment and introductory and entry level job preparation programs are offered. At the community college level, career counseling and assessment are provided and vocational programs are offered. At the community college level, career counseling and assessment are provided and vocational programs are offered not only for those who wish to enter the labor market, but for those who seek further education and training to prepare for advanced job training at four-year institutions or other educational agencies, upgrade their skills, or obtain retraining due to voluntary or involuntary career changes.

Regional Occupational Centers/Programs (ROC/Ps) begin offering entry level training for eligible high school youths who take their other subjects at their parent high school. ROC/Ps also offer training for eligible adults. Adult vocational education programs are offered primarily to out-of-school youths over age 16 and adults. Under certain circumstances, however, adult schools can offer training to in-school youths. Thus, both ROC/Ps and adult schools are shown with a two-way flow with secondary schools and community colleges. The model shown here is reflective of the actual practices in education, but is complicated by the external funding of employment training for out-of-school youths and adults by federal and state sources that use ROC/Ps, adult schools and community colleges as training deliverers.

9. Directions for change in improving career-vocational education at each educational level will be developed by the State Department of Education and the Chancellor's Office, working in cooperation with other state agencies and local educational agencies. Each district in the public education system will develop and implement an articulated plan for career-vocational education.

Conclusion

This document, Part I of the state plan, contains issue-related goals that are essential to a comprehensive plan for career-vocational education in California. The foregoing recommendations direct the way toward development of specific strategies for implementing these goals by the State Department of Education and the Chancellor's Office. Part II of the state plan will present those strategies and evaluation criteria for measuring progress toward implementing the goals of career-vocational education in California's schools.

The mission and goals for career-vocational education have been developed during a period of dynamic change in California's economic environment and strong currents of reform in public education. Their implementation will take place in the same climate. The quest to ensure quality education while ensuring equity and access to all students is a powerful tenet of public education in California. It is appropriate that career-vocational education become a full partner in the state's educational enterprise, that it be recognized for its role in meeting students needs, and that it be given a fundamental place in helping continue the economic development of the state into the twenty-first century.

APPENDICES

APPENDIX A

GLOSSARY OF TERMS

Apprenticeship Training Program: An employment based occupational training program that combines on-the-job training with related technical instruction. These voluntary programs are initiated by industry, registered with the State agency and sponsored by a joint apprenticeship committee, a unilateral labor or management committee, an individual labor or management committee, or an individual employer. These comprehensive training programs require a minimum of one year duration; most require three or four years and some program terms exceed five years to complete. State approved apprenticeship standards contain work processes, apprenticeship compensation, provision for related supplemental instruction courses, rules, regulations, guidelines, policy statements and other important features to assist in the effective administration of that apprenticeable occupation. The local educational agencies provide the related and supplemental instruction which is an organized and systematic form of instruction designed to provide the apprentice with knowledge including the theoretical subjects related and supplemental to the skill(s) involved.

Articulation: A planned process linking two or more educational systems together to help students make a smooth transition and be prepared to move from one level to another. In the instructional context, sequential learning experiences are organized so as to ensure that students pursuing formal education for a particular career field are able to move from one level of education and employment to the next highest level of a career ladder with a minimum amount of duplication or overlap in learning, loss of time in school, and disruption in employment. Articulation also involves administrative and guidance aspects to help assure a smooth transition between levels.

Career Education: A comprehensive lifelong educational process with learning experiences which encourage and enable all individuals at all levels of their development to make appropriate personal applications of learning to prepare for and achieve a satisfying career and life-style. Career education consists of career awareness, career exploration, career guidance, career preparation, and job placement.

Career Awareness: Experiences aimed at raising the awareness level in all students of the multitude and variety of careers available.

Career Exploration: A variety of experiences and educational opportunities that allow students to explore their interests, and develop their attitudes and aptitudes related to a variety of careers.

Career Guidance: All of the various types of assistance provided to help individuals in their career development. It includes career awareness, career planning, career decision making, placement skills, and knowledge and understanding of occupational, educational, and labor market needs, trends, and opportunities. It assists individuals in making and implementing informed educational and occupational choices by relating their interests, abilities, aptitudes, values, and aspirations to realistic career goals.

Career Preparation: The acquisition of skills, knowledge, and attitudes in preparation to enter, re-enter, or advance in the work force.

Career-Vocational Education: A sequence of academic, applied academic, and vocational instruction and supportive services which provide students with competencies, knowledge, and attitudes necessary to select, enter, progress, and succeed in a chosen career field.

Cluster Skills Preparation: Preparation in the skills, knowledges, and attitudes that are common to a major occupational area.

Core Academic Skills: The foundation of knowledge based upon cultural literacy, scientific literacy, humanities, and values through which students develop the skills of reading, writing, speaking, listening, calculating, learning, problem solving, and critical thinking.

Core Competencies: Recommended skills deemed necessary by experts in the field that students must possess in order to be successful in a chosen occupation.

Employability Skills: Those skills that are generic to all occupations, both at the entry-level and through career advancement. They include proficiency in basic skills, ability to apply the basics to life or employment situations, problem solving/critical thinking skills, job seeking and job acquisition skills, desirable work attitudes and habits, and ability to adapt to change.

Employment Training: (Also called Job Training) refers to a planned, systematic sequence of instruction or other learning experiences on an individual or group basis, which is designed to impart skill, knowledge, or abilities to prepare individuals for suitable employment. It differs from vocational education in its concentration on short-term training for immediate employment.

Employment Training Panel: A panel comprised of members appointed by the Governor that administers $55 million a year to customized job training programs designed by businesses and training agencies to provide the skilled workforce companies need during a period of technological and economic change. Training is funded for unemployed workers who are receiving unemployment insurance benefits or have exhausted their benefits and are currently unemployed, as well as employed workers who are in danger of layoff because of technological or other

change in their jobs. Employers who pay into the unemployment insurance fund are eligible for assistance.

Entry-Level Preparation: Acquisition of skills, knowledge, and attitudes for those jobs that require the least amount of preparation.

General Education: Acquisition of knowledge, reasons for learning, and approaches to acquiring information, as well as the responsible use of what is learned.

Job Enhancement/Upgrading: Training of individuals for more advanced positions within the same occupational area.

Job Placement: Placement in paid or unpaid employment. The job placement process may include job referral, job placement, acquisition of job seeking skills, job development, and follow-up.

Job Retraining: A program to retrain individuals whose skills are becoming obsolete. The individuals may be retrained for jobs requiring new skills with their current employer or for demand occupations in the labor market in another occupational area.

Job Training: (See Employment Training)

Leadership Skills: Those skills and personal characteristics that cause a person to be successful in leading individuals or groups. These skills include being persuasive in a positive manner, good verbal and written communication skills, and the ability to organize people into a common effort.

Life Management Skills: Skills to effectively manage and balance personal, family, and work life. These skills include, but are not limited to, decision making, goal setting, leadership, conflict management, resource management, and techniques for improving self-understanding and interpersonal relationships.

Local Educational Agency: A board of education or other legally constituted local school authority having administrative control and direction of public elementary and/or secondary schools and community colleges in a city, county, township, school district, or political subdivision in a State, or any other public educational institution or agency having administrative control and direction of an educational program.

Mulitdisciplinary Program: Courses from more than one vocational subject matter field and academic courses which combine to form an instructional program.

Occupational Education: (See Vocational Education.)

Special Needs: This term includes handicapped, disadvantaged, limited-English proficient, and single parents/homemakers.

> **Disadvantaged:** Individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. Such term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited-English proficiency, and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school. For the purpose of this definition, an individual who scores at or below the 25th percentile on a standardized achievement or aptitude test, whose secondary school grades are below 2.0 on a 4.0 scale (where the grade "A" equals 4.0), or who fails to attain minimal academic competencies may be considered "academically disadvantaged." The definition does not include individuals with learning disabilities.
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> **Handicapped:** Individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired or other health impaired persons, or persons with special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance.
>
> **Single Parents/Homemakers:** Single parent means an individual who (a) is unmarried or legally separated from a spouse, and (b) has a minor child or children for which the parent has either custody or joint custody. (Recent interpretation also includes pregnant women in this definition.) Homemaker means an individual who (a) is an adult, and (b) has worked as an adult primarily without remuneration to care for the home and family, and for that reason has diminished marketable skills.

Transferability Skills: Academic, applied academic, and vocational skills required for a specific career field which are transferable and applicable to a broad spectrum of existing, new, and emerging related and unrelated career fields.

Vocational Education: (Also called Occupational Education) refers to a planned, systematic sequence of instruction or other learning experiences which provide individuals with necessary skills, knowledge, and attitudes to attain entry-level employment, occupational advancement, upgrading, or career change. Such occupational preparation should be accompanied by broader educational experiences to assist students achieve longer range career aspirations as well as immediate occupational objectives and is usually of longer duration than shorter-term job training.

APPENDIX B

DESCRIPTION OF THE PUBLIC EDUCATION SYSTEM

The public education system in California has eight major levels or components including elementary grades (K-5 grades), middle schools (6-8 grades), high schools, County Offices of Education, Regional Occupational Programs/Centers (ROC/Ps), Adult Education, Community Colleges, and Criminal Justice Agencies that provide vocational education. These components are operated under a variety of state and local administrative units which are explained briefly below. Each component of the public education system provides a different aspect of career-vocational education. At the lower levels of the education system the different roles of the grades and program providers are relatively well defined. However, at the higher levels of the educational system, where there is more emphasis on providing vocational education and job training, delineation of functions is not so precise or clear cut. This is particularly true when public educational agencies are used to deliver employment training for state and federally funded programs such as Employment Training Panel programs (ETP), the Job Training Partnership Act (JTPA), Greater Avenues for Independence (GAIN), and other programs aimed at displaced workers, refugees, welfare recipients, unemployed and underemployed workers.

Delineation of functions is even more complex when vocational and job training programs to serve adults in need of training or retraining are considered along with apprenticeship training, programs for unemployed, and incarcerated youths and adults. Thus, one of the major tasks to be addressed as part of the long-range planning effort is for the Chancellor's Office, California Community Colleges, and the State Department of Education to determine the assignment of responsibility for delivery of certain vocational programs for adults. It should be noted that all components of the public education system serve special needs students in career-vocational education programs.

- **Elementary Schools**. This component covers grades kindergarten (K) through the fifth grade (in some instances elementary schools span K through the 8th grade). Career awareness activities begin at this level. There are more than 4,500 public K-5 schools in California and nearly three million students in grades one through eight.

- **Middle Schools**: Over 700 middle schools span grades 6 through 8. Career education orientation at this level is largely awareness and exploration with some beginning career guidance.

- **High Schools**: About 820 public high schools in the State serve 1.3 million in school youths. The primary purpose of high school education is to assure that all students acquire appropriate levels of basic skills - communication, computation, reasoning - that they can apply to job preparation programs. At this level, the

career education concept continues to focus on career awareness and exploration and incorporates entry level preparation experiences into the comprehensive curriculum in career-vocational education programs as part of a comprehensive curriculum in broad occupational fields such as agriculture, office occupations, computer, health careers, distributive education, industrial technology, and consumer/home economics. Career guidance and program placement become a larger part of the services provided to students in high school. The target population for these programs are in-school youths.

- **County Offices of Education**: All 58 counties in California receive services from a county office of education. For purposes of economy and efficiency in a few cases a single office serves several counties. County offices provide special education programs for in-school youths, out-of-school youths and special needs students such as the handicapped and mentally disabled whose needs cannot be adequately met by the regular schools. County offices operate about 300 site and/or programs as well as court schools for local juvenile authorities.

- **Regional Occupational Centers/Programs (ROC/Ps)**: Seventy (70) ROC/Ps are operated by county offices of education, single districts or through joint powers agreements between two or more school districts. Career-vocational education programs are offered in a variety of fields for in-school youths, 16 years of age or older, who take their regular educational program at their parent high school and their career-vocational education programs at a center or program site offered by the ROC/P. Many ROC/Ps offer vocational education programs in two hour or longer blocks of time and permit students to have access to vocational education programs that would not ordinarily be available to them at their own school because they would be too costly or would not generate sufficient enrollment from one school to warrant offering them. In addition to in-school students, ROC/Ps provide training to out-of-school youths and adults (including those who are under- and unemployed) and state registered apprentices. ROC/Ps also are used to provide training funded by state and federal programs and services including the Greater Avenues for Independence (GAIN) program.

- **Adult Education Vocational Programs**: Adult education is responsible for providing courses and programs in ten different areas of instruction such as English as a Second Language (ESL), basic education, citizenship, parent education, recreation and leisure, and health as well as vocational education. Adult education enrolls over 1.4 million students each year and 15.5 percent of these are in vocational education programs. Adult programs are administered by K-12 districts in some locations and by community colleges in others. Although adult education serves a wide range of target populations, its principal ones for vocational education are adults (over age 16) in or out of school. They also serve as a deliverer of state and federal job training programs and services, including GAIN.

- **Community Colleges**: 106 community colleges under the administration of 70 districts are part of the higher education system in California. They serve about 1.2 million full- and part-time students, of which about 75 percent enroll in one or more courses in the 320 different vocational education programs in 16 major program disciplines. They offer a variety of assessment, career guidance and counseling services. The target populations served by community colleges cover a wide gamut, but two major populations of vocational education programs are those who continue their education directly from high school in order to prepare for job entry or to take advanced job preparation and employed persons whose objectives are to upgrade their skills, broaden their occupational preparation or change careers. Vocational education is offered through short-term job training, certificate programs and two-year associate degree programs. Community colleges also serve as the deliverer for a variety of state and federal training programs and services such as GAIN and JTPA.

- **Criminal Justice Agencies**: The major correctional agencies providing vocational educational programs for the incarcerated are the Department of Corrections and the California Youth Authority (CYA). In 1986-87 the Department of Corrections operated 46 institutions and camps and offered vocational educational programs and apprenticeship training to about 4,500 inmates. The CYA operates 16 institutions and camps and offers 97 programs to about 7,000 wards annually. Other county and city facilities comprise the remaining criminal justice agencies, but vocational training is not a major component of the treatment provided by county and city facilities.

When the size of the faculty, general revenues and average expenditures per student in the public educational system are viewed along with the number and composition of the districts and school sites, the magnitude and complexity of the enterprise can be seen. The picture is made even more imposing when a few of the factors that have implications for career-vocational education are added. The following selected factors illustrate some of these implications.

- A review by experts of the curriculum in California high schools indicated that they were primarily aimed at preparing students for the next level of schooling rather than for the prospect of going to work.

- A national review of the labor market indicates that about 80 percent of the occupations in the future will not require a baccalaureate degree but will call for further special or advanced training beyond high school.

- The average high school dropout rate (between the 9th and 12th grades) in California is about 32 percent and closer to 50 percent among urban minority students.

- Recent studies of education indicate a strong need to articulate educational programs (including vocational education) between levels and among educational institutions.

- There is a need to ensure that basic academic skills are infused in career-vocational education programs.

- Complex funding formulae complicate smooth flow of career-vocational funds to deliverers and create overlapping, duplicative reporting to funding agencies.

These few factors shed light on the challenge confronting career-vocational education in the State. Most deal directly with educational needs and the internal components of the public education system. When the external factors such as general population trends, enrollment patterns, and economic climate in the State are considered, they add a further dimension to the challenges of the coming decade for career-vocational education.

APPENDIX C

POPULATION PROFILE OF CALIFORNIA

The population of California is not only growing, it is changing in its demographic patterns. With a population of over 26 million people, California has more people than any other state in the nation. People enter the State at a rate of 400,000 persons per year. Latest forecasts expect California to reach 32 million by the year 2000. This population growth and its accompanying social and cultural diversity will have their impact on the demands for career-vocational education at all levels. A brief profile of California's population illustrates the diversity of the people and the probable nature of those demands.

- **Growth Rate**: One in nine people in the U.S. lives in California. During the early 1980s, the population grew at an annual rate of 2.12 percent which was about 20 percent above the national growth rate.

  The 13 western states account for 20 percent of the total U.S. population but since 1980 have accounted for 38 percent of the growth. California exceeds the population of the other 12 western states combined.

- **Migration Patterns**: California has the largest immigration rate in the nation, with the greatest cultural diversity because of a natural linkage with Pacific Rim nations of Latin America and Asian countries.

  15 percent of California's population was born in another country. Not all aliens are accurately counted. Thus, this is actually an understatement as official population figures do not include an estimated 2 million undocumented immigrants - most of whom reside in the metropolitan areas of Southern California and the San Francisco Bay Area-San Jose corridor.

  California is affected by large immigration from other states - 55 percent of its residents were born in another state.

  Many of the groups which immigrate to California have unique or distinct cultures and close cultural bonds - lumping various groups together as Asians or Hispanics is an inaccurate and simplistic reflection of the cultural diversity that is a reality.

- **Age Structure**: California's population is growing older. Lower birth rates of the previous decade indicate that the high school age group will not attain the numbers of the mid-1970s until the late 1990s. High school student numbers will begin to show increases after 1995.

The proportion of people between the ages of 35 to 54 is increasing due to immigration and is expected to represent nearly one-third of the population by 1995. Currently, the average age for whites is 31, for blacks is 25, and for Hispanics is 22.

Immigration groups and ethnic minorities tend to be younger than the white, non-Hispanic population and have higher birth rates which already shape the demographic pattern of enrollment in lower grades today and will shape the profile of secondary and postsecondary schools in coming decades.

- **Ethnic Composition**: The State is moving toward increased diversity with minorities moving toward being a plurality of the total population by 2020. By the year 2000, the school-aged population will already have a plurality of ethnic minorities. Hispanics will increase more rapidly than other groups. They constituted 21 percent of the population in 1985 and are expect to be 28 percent by 2005.

  Asians and other Pacific Island minorities will increase from the current 8.5 percent to 12.5 percent during the next two decades. Blacks will maintain their proportion of about 9 percent of the total state population.

- **Family Income**: In 1980, 18.5 percent of the families in California had annual incomes of less than $10,000. However, low-income status was unevenly distributed among ethnic groups. For example, 34 percent of the black families made less than $10,000 compared to 16 percent of the Asian families. (In 1986, federal guidelines made $11,000 the poverty level for a family of four.)

- **Educational Attainment**: In 1980, 73 percent of the adult population in California had a high school or higher education. About 42 percent had some college education.

  It is estimated that 25 percent of the adult population is functionally illiterate.

  Educational attainment among ethnic groups varies widely. About 44 percent of the Hispanic population had a high school or higher education, with 20 percent having some college. Among Asians, 76 percent had finished high school or better with 52 percent having taken some college work.

The demographic highlights noted here have some notable implications for education in general and career-vocational education specifically. First, the smaller cohort of high school aged youths until the mid- to late 1990s means that career-vocational education programs will probably have fewer traditional-aged students on which to draw. At the same time, there will be a stronger demand for vocational education among older persons who have different needs and learning styles from the traditional 16 to 21 year old high school/college-aged group. Many adults in school will have small children. These adults may be re-entering to change or

upgrade careers. They will want student support services that younger students may not be concerned about, such as child care, flexible schedules, convenient locations close to work or home, and more part-time class attendance.

Second, the large portion of minorities with language barriers, basic educational skill deficiencies and lower economic resources to devote to education will mean stronger demand for services such as financial aid, English as a second language and basic educational instruction that are linked to vocational education. The need for counseling and student services will not only increase, but change in nature and scope. Job placement assistance will need to be included in the array of student services.

Third, coordination among program providers will become essential to reduce loss of time and needless duplication as more adults want to take career-vocational education courses at convenient locations to gain employment or advance in their occupational fields.

APPENDIX D

AN ECONOMIC PICTURE OF CALIFORNIA

California's Economy

The economic picture for California is stronger than for the nation as a whole and its growth is expected to continue and lead the nation for the coming decade. California's economic opportunities are unmatched by most nations. If it were an independent nation, its gross product (the total value of its goods and services produced) would make it the sixth largest economic entity in the world. Southern California alone would be the tenth largest.

According the California Statistical Abstract of 1986, when compared to other states, California ranked first in a number of economic indicators. Among them:

- Total Personal Income -- $371.2 Billion (sixth in per capita -- $14,487)
- Total Agriculture -- $14.6 Billion (Crop value of $7.0 Billion)
- Employment in Non-Agriculture -- 10.6 Million Workers
- Value Added Manufacturing -- $93.4 Billion
- Employment in Manufacturing -- 2.1 Million Workers
- Export Related Manufacturing Employment -- 0.3 Million Workers
- Department of Defense Civilian Employment -- 134 Thousand Workers
- Defense Contracts -- $29.1 Billion
- Retail Trade -- $153.6 Billion

Of the total California labor market, Southern California provides about 60 percent of the labor market of the State and Los Angeles County provides over 50 percent of the Southern California base.

Thus, the sheer magnitude and diversity of California's economy means that its needs for career-vocational education are different than those for other states.

California leads the nation in value-added manufacturing. The industry groups that contribute most to this in terms of rapid growth in employment and production have been in microelectronics, communications, computers and office equipment, and instruments. These four industry groups comprised half the manufacturing value-added in 1982 and three quarters of the State's total manufacturing exports in 1983.

During the early 1980s, California possessed the world's greatest concentration of high technology industries and some 22 percent of the nation's scientists and engineers, conducting 50 percent of nationally sponsored research and development. California leads the nation in electronics manufacturing and four of the five U.S. counties with the largest such employment are Santa Clara, Los

Angeles, Orange, and San Diego. However, by the mid-1980s, foreign competition had threatened this position. In fact, all of California's major export industries face increasing global competition - agriculture, high technology manufacturing, aerospace, and financial services.

One of the efforts to address this competitive export market has been the establishment of world trade centers to market California's products. Five world trade institutes/centers are being developed in Long Beach, Los Angeles, Pomona, Oxnard and Orange. San Diego and the San Francisco Bay Area are also actively involved in world trade centers. California actively markets on a global scale. Southern California ranked second nationally in trade activity and is the State's leading center for international trade. Total trade activity in Los Angeles and San Diego customs districts reached $53.9 billion by 1986, an increase of 3.9 percent over 1985.

This phenomenon will need to be reflected in the educational system if today's students are to be prepared for tomorrow's careers in international trade.

Employment Patterns

California's unemployment rate is expected to remain moderate during the coming decade, at an average of about 6 percent. However, the number of jobs created during this period is expected to be twice the national rate. There are a number of factors that will affect the growth of employment as well as the unemployment rate in certain occupational fields.

- **Small businesses,** as defined by the Small Business Administration, employ 47 percent of the private work force, contribute 42 percent of all sales in the country and are responsible for 38 percent of the GNP. The number of small businesses has increased 23 percent in the past decade. The fastest growing sectors of the small business-dominated industries include computer and data processing services, credit reporting, collection services and the construction industry. Over 75 percent of all parts made in the U.S. today are produced in batches of 50 or less; many of these are produced in small businesses. Small businesses are often the entry point for newly trained or re-entry workers. In addition, these businesses foster entrepreneurship. Thus, they should be targeted for inclusion in needs assessments of the employment community if career-vocational education programs are to be responsive to all segments of their employment communities as well as to their student needs.

- **Telecommunications** will accelerate as we move further toward being a knowledge and information society. Use of direct broadcast satellites will make information available to individual businesses and home. Use of computers will expand in terms of the number of persons who have them and in the technological advances that will make them more powerful and easy to use.

Occupations related to installing, repairing, and maintaining electronic equipment, computers, peripheral equipment and other devises will provide opportunities for those with proper skills and training.

- **Manufacturing** will remain critical to California's economy. As we move to an information society we will not depart from the need to produce goods. This is supported by the fact that U.S. manufacturing output has grown by 50 percent during the last decade, productivity has increased above many of our industrialized competitors, and manufacturing employment has increased even though its proportion of the total labor force has decreased. Thus, manufacturing and its related support service industries will remain a source of employment for entry workers.

  Recent research suggests that upwards of 25 percent of existing service jobs are tightly linked to manufacturing. Linked service workers include engineers and designers as well as maintenance and customer service personnel.

- **Services** will continue to expand. This is the fastest growing industry, comprising nearly one quarter of all jobs. Even though over 70 percent of all jobs in California are now classified as non-manufacturing, the estimate for manufacturing related employment could be as high as 50 percent if linked services are included. Non-manufacturing employment could increase by 40 percent during the 1990s, largely in services that already exist such as food services and maintenance as well as technical and business services.

- **Health services and child care** will continue to be critical needs as the State approaches the Twenty-first Century. As the population ages on one hand and younger families are concentrated in minority populations, these two services will increase in demand.

- **Financial services** will change and expand as international communications networks and trade arrangements expand. Computer applications and other high technology means of delivering services to clients will have direct impact on the users of financial institutions and their services as well as on the qualifications of those who work for them. A large part of the work force will no longer be comprised of tellers and bookkeepers, but of analysts and sales personnel.

Technology and Its Impact on Employment Patterns

The debate on the impact of technology on the need for workers and their skill requirements is not settled. Some of the points made by each side of the issue are important to educational planning.

- **Non-human components of production such as computers and robots will change the work environment**. Only 35 percent of all computer workers in the nation were involved in production last year. Approximately 70 percent of the cost of a semi-conductor microchip is for knowledge - only 12 percent for labor. By contrast, in highly automated car plants, labor costs still run 20-25 percent. As we move to higher automation of the work place, social systems and work organization will change to fit the human and environmental needs.

- **Some experts believe that middle-level skilled jobs will decrease**. According to an article in the Los Angeles **Times**, the AFL-CIO believes that middle income jobs (generally those in the middle skilled category) will disappear. They cite the fact that displaced workers who subsequently found work earned 10-15 percent less average real earnings than in the jobs they lost. Many lost one quarter of their former earnings. An AFL-CIO spokesperson believes that it costs more to train a good skilled machinist than it does to educate a Ph.D. He stated further, the country's machine tool industry is losing out to foreign companies because the U.S. has not expended money to train the necessary workers.

  Other experts contend that technological change will contribute to the need for a broad range of skills in the future labor force. Current trends in California show that as a proportion of all job skills -

  - Professional, sales and clerical workers are increasing
  - Managerial and service workers are stable
  - Crafts, operatives and laborers are decreasing.

- **Time pressures impact the work place, the home and the social environment**. These will result in continued demand for convenience services such as those found in food and maintenance services.

Implications of Technology and Economic Trends

The impact of technology on the work place carries over into the training needs of workers, the social environment in which they work and employment practices. Occupations in which the greatest growth is expected to occur will all be impacted by high technology, whether the job is clerical, sales, service, operational or technical and managerial.

Some implications of technology and economic trends on employment practices are noted here because of their impact on planning career-vocational education programs and services.

- The shift will be away from long-term employees toward temporary workers so that expansion or contraction (down-sizing) of a company can have the greatest flexibility. This will affect new entrants into the work force not only in their

places of work, but also in the benefits packages that they receive. Many will work shorter work weeks. Many will accelerate changing their career patterns which is currently estimated to occur five or more times during their work lives. There is a need to consider the role of career advisement and job placement of career-vocational education program providers.

- Communities with high concentrations of manufacturing may endure a decline in their physical environment due to congestion, water shortages and toxic wastes. These problems will require workers with training to deal with moderating and ensuring a healthful environment.

These issues have implications for the deliverers of training and career-vocational education programs. Workers are going to need upgrading to keep pace with changing markets; new entering workers are going to need flexibility and an understanding of the changing environment into which they will be thrust as well as core academic and job skills which will allow them to compete in a job market in an information society.

Career-vocational education is one major means of developing the State's human resources and meeting the need for a skilled and flexible labor force. Employers already find it increasingly difficult to fill entry-level jobs with skilled, motivated workers. Employers are asking for entry-level workers who have strong communication skills in English, are able to reason and solve problems, are able to read, write and compute. They want workers who have positive job attitudes and have good human relations skills.

The state must make investments to upgrade core academic education and at the same time develop a skilled, technical work force. This must be obtained while addressing the needs of a rapidly changing and increasing diverse population. This will be amplified by the increasing dropout rate for students in high schools which currently exceeds 30 percent and among minorities nearly 50 percent. When this is added to the functional illiterates already in our society, California faces a real educational challenge. The answer to employers needs lies in quality human resource development coupled with the training and career-vocational education programs in California's public education system. To achieve this goal there must be assurance of core academic education and access for students to career-vocational education which provides choice in careers, literacy training, entry-level skills, and industry-specific training which is subject to performance standards.

APPENDIX E

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Writing and Level Review Teams
California Plan for Career-Vocational Education

Mr. Dick Adams	San Diego County Office of Education
Ms. Gwen Amos	Gwen Amos Design
Dr. Tony Apolloni	California Institute on Human Services
Ms. Catherine Ayres	DeAnza College
Ms. Shirley Badasch	Professional Development Consultant
Mr. Walt Beeler	Butte County ROP
Dr. William Boakes	Chancellor's Office, California Community Colleges
Dr. Thomas Bogetich	California State Council on Vocational Education
Dr. Esther Caldwell	Compton Community College
Ms. Rita Cepeda	Chancellor's Office, California Community Colleges
Ms. Susan Cronenwett	Sacramento City Unified School District
Mr. Doug Cronin	Chancellor's Office, California Community Colleges
Mr. Art Cunneen	Employment Development Department
Ms. Nancy Davenport	Chancellor's Office, California Community Colleges
Dr. Brenda Davis	Riverside Community College
Ms. Janice DeBenedetti	State Department of Education
Mrs. Vicki Dolnick	Los Angeles Unified School District
Dr. Pauline Ferris	Simi Valley Unified School District
Mr. Pat Fitzmorris	Sweetwater Union High School District
Mr. Doug Fuller	Employment Development Department
Ms. Connie Gipson	State Department of Education
Mr. Steven Glick	Bay Area Council
Mr. Dick Hamann	San Diego Community College District
Dr. Edward Hernandez	Mt. San Antonio College
Mr. William Hockenson	San Juan Unified School District
Mr. Steve Hunter	Sierra College
Dr. Betty Kisbey	Peralta Community College District
Ms. Ina Rae Lapum	Diablo Valley College
Mr. Rick Larkey	Associated Resources
Dr. William H. Lawson	Oxnard College
Mrs. Virginia Lish	Ceres Unified School District
Mr. Robert Little	Employment Development Department
Ms. Sara Ludquist	Rancho Santiago College
Dr. Joan Martin	San Diego State University
Ms. Lani Edie McGinn	Glendale Community College
Mr. Dean McNeilly	San Joaquin Delta College
Mr. Albert Metzler	Chancellor's Office, California Community Colleges
Ms. Sandra Meucci	Sonoma State University
Mr. John Mills	Chancellor's Office, California Community Colleges
Mr. Myron Nadolski	American River College
Mr. Wib Namestka	Los Angeles Unified School District
Dr. Phil Nash	Monterey Peninsula College
Dr. Barbara Nemko	University of California, Davis

Ms. Erna Noble	Chaffey College
Mrs. Sandra Olds	Hamilton Middle School
Mr. John Pennington	Department of Youth Authority
Mr. Bill Pitts	Colton-Redlands-Yucaipa ROP
Ms. Teresa Pon	San Francisco Community College Centers
Mr. Gordon Ray	Mission Trails ROP
Mrs. Jackie Ray	Grant Union High School District
Ms. Susan Reese	San Diego Unified School District
Mr. Mark Reid	Fairfield-Suisun Unified School District
Ms. Susan Rogers	West High School, Torrance
Mr. Steven Saxton	Employment Development Department
Mr. Robert Schallig	State Department of Education
Mr. Bill Scott	Department of Corrections
Mr. Win Silva	Chancellor's Office, California Community Colleges
Mr. Paul Snyder	Coastline ROP
Mr. Michael Stevenson	Salinas City Elementary District
Mr. Ted Sypolt	Allan Hancock College

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